

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A method for evaluating operation of an alternator comprising:
detecting a frequency component of an alternator output signal representative of a rectified
output of the alternator;

comparing the frequency component of the alternator output signal with a threshold
frequency; and

evaluating operation of a rectifying circuit of the alternator based on a result of the
comparing step.

2. (Original) The method of claim 1, further comprising a step of maintaining the
rotational speed of the alternator at a predetermined level before detecting the frequency component
of the alternator output signal.

3. (Currently Amended) The method of claim 1, wherein if further comprising the step
of: responsive to the frequency component being is smaller than the threshold frequency, generating
an error signal to indicate a defective rectifying circuit the alternator is determined as defective.

4. (Currently Amended) A system for evaluating the operation of an alternator
comprising:

a terminal for receiving an alternator output signal representative of a rectified output of the
alternator;

a frequency detection device for detecting a frequency component of the alternator output
signal;

a controller for comparing the frequency component of the alternator output signal to a threshold frequency, and generating an indication signal based a result of the comparison; and an indication device responsive to the content of the indication signal for indicating the operation of a rectifying circuit of the alternator.

5. (Original) The system of claim 4, wherein the frequency detection device comprises:

a threshold device for generating a reference threshold; and a comparator for comparing the level of the alternator output signal with the reference threshold and generating a frequency signal indicating the frequency component of the alternator output signal based on the comparison result; wherein the frequency signal is coupled to the controller.

EF
Con 4

6. (Original) The system of claim 5, wherein the reference threshold is generated based on the level of the alternator output signal according to a predetermined rule.

7. (Original) The system of claim 6, wherein the reference threshold is a value between a peak signal level and a valley signal level of the alternator output signal.

8. (Original) The system of claim 6, wherein the reference threshold is the average of the peak level and valley level of the alternator output signal.

9. (Original) The system of claim 4, wherein the alternator output signal is the current or voltage generated by the alternator.

10. (Original) The system of claim 4, wherein the alternator is installed in an automotive vehicle and driven by the engine of the automotive vehicle.

11. (Original) The system of claim 10, further comprising a database, accessible by the controller, including threshold frequencies corresponding to more than one vehicle model.

12. (Original) The system of claim 10, further comprising a database, accessible by the controller, including threshold frequencies corresponding to more than one engine rotational speed.

13. (Original) The system of claim 10, wherein the alternator output signal is received from a vehicle computer installed on the automotive vehicle.

14. (Original) The system of claim 4, further comprising a database, accessible by the controller, including threshold frequencies corresponding to more than one alternator rotational speed.

15. (Original) The system of claim 4, wherein the alternator output signal is received from a data processing system.

16. (Original) A system for evaluating the operation of an alternator comprising: a terminal for receiving an alternator output signal representative of an output of the alternator;

an adaptive threshold device for generating a reference threshold based on the level of the alternator output signal according to a predetermined rule;

a comparator for comparing the level of the alternator output signal with the reference threshold and generating a frequency signal indicating the frequency component of the alternator output signal based on the comparison result;

a controller for comparing the frequency component of the alternator output signal with a threshold frequency, and generating an indication signal representative of the operation of the alternator based on the comparison result of the frequency component and the threshold frequency;

and

an indication device responsive to the content of the indication signal for indicating the operation of the alternator.

17. (Original) The system of claim 16, wherein the reference threshold is the average of the peak level and valley level of the alternator output signal.

18. (Previously Presented) A system for evaluating the operation of an alternator comprising:

means for receiving an alternator output signal representative of a rectified output of the alternator;

means for detecting a frequency component of the alternator output signal;

means for comparing the frequency component of the alternator output signal to a threshold frequency;

means for generating an indication signal based the comparison result; and

an indication device responsive to the content of the indication signal for indicating the operation of a rectifying circuit of the alternator.

19. (Original) The system of claim 18, wherein means for detecting a frequency component of the alternator output signal comprises:

means for generating a reference threshold; and

means for comparing the level of the alternator output signal with the reference threshold and generating a frequency signal indicating the frequency component of the alternator output signal based on the comparison result;

wherein the frequency signal is coupled to the controller.

Con

20. (Original) The system of claim 19, wherein the reference threshold is generated based on the level of the alternator output signal according to a predetermined rule.

21. (Original) The system of claim 20, wherein the reference threshold is a value between a peak signal level and a valley signal level of the alternator output signal.

22. (Original) The system of claim 21, wherein the reference threshold is the average of the peak level and valley level of the alternator output signal.

23. (Previously Presented) A system for evaluating the operation of an alternator comprising:

means for receiving an alternator output signal representative of an output of the alternator;

means for generating a reference threshold based on the level of the alternator output signal according to a predetermined rule;

means for comparing the level of the alternator output signal with the reference threshold and generating a frequency signal indicating the frequency component of the alternator output signal based on the comparison result;

means for comparing the frequency component of the alternator output signal with a threshold frequency, and generating an indication signal representative of the operation of the alternator based on the comparison result of the frequency component and the threshold frequency; and

indication means, responsive to the content of the indication signal, for indicating the operation of the alternator.

16
Cont

24. (Previously Presented) The system of claim 23, wherein the reference threshold is the average of the peak level and valley level of the alternator output signal.

25. (NEW) A method for evaluating operation of an alternator comprising:
detecting a frequency component of an alternator output signal representative of a rectified output of the alternator obtained from terminals of a battery coupled to the alternator;
comparing the frequency component of the alternator output signal with a threshold frequency; and
evaluating operation of the alternator based on a result of the comparing step.

26. (NEW) The method of claim 25 further generating an output signal indicating the operation of a rectifying circuit of the alternator based on a result of the evaluating step.

27. (NEW) A system for evaluating the operation of an alternator comprising:
a terminal for receiving an alternator output signal representative of a rectified output of the alternator from terminals of a battery coupled to the alternator;
a frequency detection device for detecting a frequency component of the alternator output signal;
a controller for comparing the frequency component of the alternator output signal to a threshold frequency, and generating an indication signal based a result of the comparison; and
an indication device responsive to the content of the indication signal for indicating the operation of the alternator.

28. (NEW) The system of claim 27 wherein the operation of the alternator is related to a rectifying circuit of the alternator.

29. (NEW) A system for evaluating the operation of an alternator comprising:
means for receiving an alternator output signal representative of a rectified output of the alternator;
means for detecting a frequency component of the alternator output signal;
means for comparing the frequency component of the alternator output signal to a threshold frequency;
means for generating an indication signal based the comparison result; and

an indication device responsive to the content of the indication signal for indicating the operation of the alternator.

30. (NEW) The system of claim 29, wherein the operation of the alternator is related to a rectifying circuit of the alternator.
